

AMENDMENTS TO THE CLAIMS:

Please cancel without prejudice claim 26, amend claims 1 and 23 and add newly written claims 27 and 28 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A bearing comprising:
a first bearing surface;
a second bearing surface separated from said first bearing surface by a gap, said gap
having a convergent region and containing fluid ~~from a second bearing surface, wherein, in use,~~
said first bearing surface moves relative to said convergent region so as to entrain said fluid into
movement towards said convergent region and wherein ~~whereby~~ said second bearing surface slips
relative to said fluid and pressure within said fluid between said first bearing surface and said
second bearing surface supports a load applied between said first bearing surface and said second
bearing surface.

2. (original) A bearing as claimed in claim 1, wherein said second bearing surface is substantially non-wetted by said fluid.

3. (previously presented) A bearing as claimed in claim 1, wherein said first bearing surface is wetted by said fluid.

4. (previously presented) A bearing as claimed claim 1, wherein said fluid is an oil and said first bearing surface is oleophilic.

5. (previously presented) A bearing as claimed in claim 1, wherein said fluid is an oil and said second bearing surface is oleophobic.

6. (previously presented) A bearing as claimed in claim 1, wherein said fluid is a film of fluid disposed upon said first bearing surface.

7. (previously presented) A bearing as claimed in claim 1, wherein said bearing is immersed in said fluid.

8. (original) A bearing as claimed in claim 6, wherein said second bearing surface is part of a data access head operable to access data stored on a movable data storage media, said first bearing surface being a surface of said data storage media.

9. (original) A bearing as claimed in claim 8, wherein said movable data storage media is a magnetic disc and said data access head is a magnetic disc data access head.

10. (previously presented) A bearing as claimed in claim 1, wherein said bearing is part of an electromechanical system, said first surface being part of a moving first component and said second surface being part of a stationary second component.

11. (original) A bearing as claimed in claim 10, wherein the electromechanical system is a microelectromechanical system.

12. (previously presented) A bearing as claimed in claim 1, wherein said first surface has a surface energy of greater than 0.05 J/m^2 .

13. (previously presented) A bearing as claimed in claim 1, wherein said second surface has a surface energy of less than 0.05 J/m^2 .

14. (previously presented) A bearing as claimed in claim 1, wherein said first surface is one of;

a metal; and

a ceramic.

15. (previously presented) A bearing as claimed in claim 1, wherein said second surface is one of;

a polymer;

a fluorinated surfactant coating; and

a hydrocarbon surfactant coating.

16. (previously presented) A bearing as claimed in claim 1, wherein said second bearing surface has a surface roughness less than 0.01 micron root mean square when measured with an upper cut-off length of 1 micron.

17. (previously presented) A bearing as claimed in claim 1, wherein said fluid has a surface tension higher than a critical surface tension of said second bearing surface.

18. (previously presented) A bearing as claimed in claim 1, wherein said fluid is one of;
water;
glycerol;
an ionic liquid; and
a synthetic lubricant.

19. (original) A bearing as claimed in claim 18, wherein said synthetic lubricant is an ester.

20. (original) A bearing as claimed in claim 18, wherein said synthetic lubricant is an ether.

21. (previously presented) A bearing as claimed in claim 1, wherein said first bearing surface and said second bearing surface is one of;
a bulk material;
a surface treatment; and
a coating.

22. (previously presented) A bearing as claimed in claim 1, wherein said fluid contains an additive to form a non-wetting film at the second bearing surface.

23. (currently amended) A bearing comprising:

a fluid slippage surface;

a wettable fluid entrainment surface moveable in relation to and separated by a gap from a substantially non-wettable fluid slippage surface, said gap having a convergent region and an intermediate lubricant layer fluid therein, said intermediate lubricant layer fluid adhering at a first interface to said wettable fluid entrainment surface and non-adhering at a second interface to said substantially non-wettable fluid slippage surface, wherein movement of said fluid entrainment surface towards said convergent region generates an increased pressure in said fluid in said convergent region.

24. (original) A bearing as claimed in claim 23, wherein movement of said wettable surface entrains said lubricant layer into said convergent region so as to generate a pressure within said intermediate lubricant layer for supporting a load.

25. (original) A bearing as claimed in claim 24, wherein movement of said wettable surface results in slipping between said second interface of said intermediate lubricant layer and said substantially non-wettable surface.

26. (cancelled).

27. (new) A method of supporting a first surface by a second surface for relative movement with reduced friction, said method comprising the steps of:

providing a fluid;

providing said first surface with a fluid entrainment capability with respect to said fluid;

providing said second surface with a fluid slippage capability with respect to said fluid;

locating said surfaces so as to define a gap therebetween with said fluid located in said gap and said gap having a convergent portion; and

moving said first surface towards said convergent portion of said gap thereby generating a pressure in said fluid, said pressure acting upon both surfaces.

28. (new) A bearing for supporting a first bearing portion by a second bearing portion for relative movement with reduced friction, said bearing comprising:

a fluid;

a first surface on said first bearing portion, said first surface having a fluid entrainment capability with respect to said fluid;

a second surface on said second bearing portion, said second surface having a fluid slippage capability with respect to said fluid, said second surface defining a gap between said surfaces, wherein said gap includes a convergent portion and wherein said fluid is located in said gap, wherein, during relative movement of said first surface towards said convergent portion, said surfaces and said fluid comprise a means for generating an increased pressure in said fluid in the region of said convergent portion of said gap.